



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Admistrative Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,537	10/29/2003	David M. Skinko	Q178-US1	7571
31815	7590	10/17/2008	EXAMINER	
MARY ELIZABETH BUSH QUALIION LLC P.O. BOX 923127 SYLMAR, CA 91392-3127			ECHELMEYER, ALIX ELIZABETH	
ART UNIT	PAPER NUMBER	1795		
MAIL DATE		DELIVERY MODE		
10/17/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/697,537

Filing Date: October 29, 2003

Appellant(s): SKINLO ET AL.

Travis Dodd
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 16, 2008 appealing from the Office action mailed December 28, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,001,503	Hercamp et al.	12-1999
4,476,203	Robert et al.	10-1984

5,314,507	Rossol	5-1994
4,539,271	Crabtree	9-1985
5,674,641	Cheu	10-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 14 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Hercamp et al. (US Patent 6,001,503).

Hercamp et al. teach a microporous battery separator that is sealed along two edges by a method such as heat sealing, ultrasonic welding, or pressure welding (abstract, column 2 lines 45-51). The bottom seal is a fold in the separator. An electrode plate is placed within the pocket created by the separator (column 1 lines 54-60). As seen in Figure 1, the electrode contained within the separator pocket includes a tab, (16).

As for claim 59, the seal is found on all four sides of the pocket (see Figure 4).

Claim Rejections - 35 USC § 103

Art Unit: 1795

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al.

The teachings of Hercamp et al. as discussed above are incorporated herein.

Hercamp et al. teaches the separator pocket for enclosing an electrode to reduce the possibility of interplate shorting (column 1 lines 30-34) but fail to teach seams on four sides of the pocket.

It would be desirable to make seams on four sides of the separator to reduce the possibility of shorting if the battery was to be used in an application where it might be turned upside down, which might cause the electrodes to slip out of the pocket along the side where there is no seam.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make a seam on the fourth side of the pocket to ensure against the possibility of shorting of the battery.

5. Claims 1, 2, 5-13, 16, 17, 20-22 and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Robert et al. (US Patent 4,476,203).

The teachings of Hercamp et al. as discussed above are incorporated herein.

Regarding claims 1 and 34, Hercamp et al. teach a gap between the seams, allowing for the electrode to be placed in the pocket (Figure 2). As for these claims, as well as 16, Hercamp et al. fail to teach a spacer.

Robert et al. teach a battery cell where the positive electrode is contained within separator elements. The separator materials are larger in surface area than the electrode plates (abstract). Robert et al. teach a line or cord of epoxy resin sealing the separator elements around the outside of the electrode plate to prevent active material, or the electrode, from escaping (column 2 lines 3-13).

As seen in Figures 3a and 3b of Robert et al., the epoxy resin serves as sealant as well as spacer, since it is poured into the channel between the portions of the separators that extend beyond the electrode plate (abstract).

It would be advantageous to create the seal of Robert et al. in the separator of Hercamp et al. since the resin can be formed within the space already created by the electrode plate being placed between the two separator sheets, the need for extra machinery to create the seal is removed.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the epoxy seal of Robert et al. in the battery of Hercamp et al. in order to facilitate the formation of the seal.

As for claims 2, 17 and 35, Robert et al. is silent on the size of the epoxy resin ribbon. However, Hercamp et al. teach that the separator about 0.006 to 0.015 inches thick. If the spacer of Robert et al. was used in the separator pocket of Hercamp et al., and the epoxy spacer was of the same thickness as the electrode, as seen in Robert et

al., it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the spacer of a thickness greater than 10 µm.

Regarding claims 10 and 21, Hercamp et al. teach the seam except for the length extending along the side of the pocket. It would have been an obvious matter of design choice to change the length of the seam, for example to facilitate production, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. MPEP 2144.04 (IV).

Claims 12 and 13 are to the thickness of the spacer in relation to the thickness of the electrode. As seen in Figures 3a and 3b of Robert et al., the spacer has the same thickness as the electrode.

With regard to claims 5, 6, 7, Hercamp et al. teach that the pocket of the separator is formed by folding the separator in half and bonding the sides perpendicular to the fold (see above).

As for claim 8, the spacer of Robert et al. forms a seam along the edges of the separator.

Claims 9 and 20 are to the separator made from polypropylene or polyethylene. Hercamp et al. teach that the separator as made of polyethylene (column 1 lines 12-17).

With regard to claims 11, 22 and 38, Hercamp et al. teach a tab on the electrode, with the tab extending outside the separator pocket. It would have been an obvious matter of design choice to put a hole in the tab, perhaps for alignment purposes, since such a modification would have involved a mere change in the shape of the component.

Art Unit: 1795

A change in shape is generally recognized as being within the level of ordinary skill in the art. MPEP 2144.04 (IV B).

As for claims 36 and 37, Hercamp et al. teach forming the seams after the electrode is positioned within the separator (column 2 lines 45-51, Figure 2).

6. Claims 3, 18, 26 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Robert et al. as applied to claims 1 and 16 above, and further in view of Rossoll (US 5,314,507).

The teachings of Hercamp et al. and Robert et al. as discussed above are incorporated herein.

Hercamp et al. in view of Robert et al. teach a spacer in the seam of the separator bag, but fail to teach the spacer including a substrate having adhesive to connect the substrate to the separator. Robert et al. teach that the epoxy serves as an adhesive to bond the separators (abstract).

Rossoll teaches an adhesively sealed battery (abstract). Although the battery of Rossoll is not a polymer battery such as the battery of Hercamp et al., it is analogous art because both are concerned with the sealing of a battery.

Rossoll teaches a spacer, or frame, connected to the outer components, analogous to the bag of Hercamp et al. in view of Robert et al. (abstract, Figure 2).

The spacer of Rossoll functions as a frame, providing structure to the battery, and as housing (column 2 lines 25-27). Further, it is attached by a high temperature adhesive coating (column 8 lines 10-12).

It would be desirable to use a spacer such as in Rossoll in the battery of Hercamp et al. in view of Robert et al., since such a spacer would serve to provide structure to the battery, and because, if the adhesive did melt, the spacer would still provide some housing for the battery, unlike if the spacer of Robert et al. were to melt.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a spacer such as in Rossoll in the battery of Hercamp et al. in view of Robert et al., since such a spacer would serve to provide structure to the battery, and because, if the adhesive did melt, the spacer would still provide some housing for the battery, unlike if the spacer of Robert et al. were to melt.

7. Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Robert et al. and Rossoll as applied to claims 3 and 18 above, and in further view of Crabtree (US Patent 4,539,271).

The teachings of Hercamp et al., Robert et al. and Rossoll as discussed above are incorporated herein.

Hercamp et al. in view of Robert et al. and Rossoll teach an epoxy adhesive to seal the edges of a pocket separator but fail to teach the use of an acrylic adhesive.

Crabtree teaches the use of an adhesive such as epoxy or acrylic to seal the edges of a pocket separator. The adhesive is selected to ensure that the seams will not fall apart during assembly or in the cell environment (abstract, column 4 lines 18-33).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the seam of Hercamp et al. in view of Robert

Art Unit: 1795

et al. and Rossoll out of acrylic if acrylic was determined to be more likely to ensure that the seams would not fall apart during assembly or in the cell environment.

8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Cheu (US Patent 5,674,641).

The teachings of Hercamp et al. as discussed above are incorporated herein.

Hercamp et al. teaches the separator pocket for enclosing an electrode to reduce the possibility of interplate shorting (column 1 lines 30-34) but fail to teach a tab opening extending through the tab and being open to an edge of the tab.

Cheu teaches a battery module containing a series of batteries having electrode tabs (abstract; Figure 3). The tabs contain holes that can be used for alignment, or to attach shafts or fastening means to form a stack (column 7 lines 35-50; column 8 lines 15-28).

Cheu teaches tab openings but does not teach that the tab openings are open to the edge of the tab. It would have been an obvious matter of design choice to form the tab openings to be open to an edge of the tab, since such a modification would have facilitated the placement of a shaft or fastening mechanism in the tab openings, such as by allowing the assembler to slide a shaft into the holes from the side instead of from the top down. Such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. MPEP 2144.04 (IV B).

It would have been advantageous to make tab openings in the tabs of Hercamp et al. as taught by Cheu in order to facilitate assembly by providing a tool to align the tabs.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make tab openings in the tabs of Hercamp et al. as taught by Cheu in order to facilitate assembly by providing a tool to align the tabs.

9. Claims 24, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Cheu as applied to claim 23 above, and further in view of Robert et al.

The teachings of Hercamp et al., Cheu and Robert et al. as discussed above are incorporated herein.

Hercamp et al. in view of Cheu teach an electrode in a bag with a tab, having a tap opening, extending from the bag. Hercamp et al. in view of Cheu fail to teach a spacer.

Robert et al. teach a battery cell where the positive electrode is contained within separator elements. The separator materials are larger in surface area than the electrode plates (abstract). Robert et al. teach a line or cord of epoxy resin sealing the separator elements around the outside of the electrode plate to prevent active material from escaping (column 2 lines 3-13).

As seen in Figures 3a and 3b of Robert et al., the epoxy resin serves as sealant as well as spacer, since it is poured into the channel between the portions of the separators that extend beyond the electrode plate (abstract).

As for claim 25, Robert et al. is silent on the size of the epoxy resin ribbon. However, Hercamp et al. teach that the separator about 0.006 to 0.015 inches thick. If the spacer of Robert et al. was used in the separator pocket of Hercamp et al., and the epoxy spacer was of the same thickness as the electrode, as seen in Robert et al., it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the spacer of a thickness greater than 10 μm .

Regarding claim 27, Hercamp et al. teach the seam except for the length extending along the side of the pocket. It would have been an obvious matter of design choice to change the length of the seam, for example to facilitate production, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. MPEP 2144.04 (IV).

It would be advantageous to create the seal of Robert et al. in the separator of Hercamp et al. since the resin can be formed within the space already created by the electrode plate being placed between the two separator sheets, the need for extra machinery to create the seal is removed.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the epoxy seal of Robert et al. in the battery of Hercamp et al. in view of Cheu in order to facilitate the formation of the seal.

10. Claims 55-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hercamp et al. in view of Robert et al. and Rossoll as applied to claim 54 above, and further in view of Cheu.

The teachings of Hercamp et al., Robert et al., Rossoll and Cheu as discussed above are incorporated herein.

Hercamp et al. in view of Robert et al. and Rossoll teach the claimed invention, including the seams, spacer and fold, as discussed above, except for the tab opening.

Cheu teaches a battery module containing a series of batteries having electrode tabs (abstract; Figure 3). The tabs contain holes that can be used for alignment, or to attach shafts or fastening means to form a stack (column 7 lines 35-50; column 8 lines 15-28).

Cheu teaches tab openings but does not teach that the tab openings are open to the edge of the tab. It would have been an obvious matter of design choice to form the tab openings to be open to an edge of the tab, since such a modification would have facilitated the placement of a shaft or fastening mechanism in the tab openings, such as by allowing the assembler to slide a shaft into the holes from the side instead of from the top down. Such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. MPEP 2144.04 (IV B).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to put holes in the tabs of Hercamp et al. in view of Robert et al. and Rossoll as taught by Cheu since it would aid in alignment or fastening of the stack.

** Note: A new grounds of rejection has been entered to correct an oversight by the examiner in the Final Rejection of December 28, 2007. Claim 26 was included in the rejection with claims 24, 25 and 27 but should have been grouped with claims 3, 18 and 54. The language of claims 3, 18 and 54 is the same as the language of claim 26; the only difference is the dependency.

(10) Response to Argument

Appellant's arguments filed July 16, 2008 have been fully considered but are not persuasive. The arguments will be addressed in the order in which they appear in Section VII of the Appeal Brief.

Beginning on page 9, Appellant argues that the rejection of claims 1 and 34 over Hercamp et al. in view of Robert et al. is not obvious. The examiner disagrees.

On page 10, Appellant alleges that the combination of the epoxy line of Robert et al. with the separator bag of Hercamp et al., with the epoxy replacing the seam of Hercamp et al., is not obvious because the epoxy seam destroys the structure of Hercamp et al. that was designed to prevent the edges wire grid electrodes from poking through the edges of the separator bag.

The examiner disagrees with Appellant's characterization of the teachings of Hercamp et al. Appellant is directed to Hercamp et al. at column 1 lines 58-67 and column 2 lines 1-6, specifically column 2 lines 4-6. The teachings of Hercamp et al. in this passage describe the parallel ribs formed in the border (26A, 26B) of the separator as depicted in Figure 2. It is these ribs, and not the seam (30), that provides the "significant resistance to gridwire puncture" (column 2 lines 4-6).

Further, on page 10, Appellant appears to have confused the border (26A, 26B) of Hercamp et al. with the seam of Hercamp et al. (30). The border is the area in which the parallel ribs are formed (column 1 lines 60-64), and the seam is at the edge of the border (see Figure 2).

Next, still on page 10, Appellant states that the epoxy lines of Robert et al., when used in Hercamp et al., would be "subjected to the sharp ends of the gridwire." The examiner disagrees with this statement, and asserts that this characterization is from the misunderstanding of the function of the seam of Hercamp et al. The seam of Hercamp et al. is not meant to prevent the puncture of the gridwire ends – that is the function of the ribbed borders. Instead, the seam of Hercamp et al. functions to hold the electrode in place, as would be evident to one having ordinary skill in the art.

The examiner suggests that the epoxy line of Robert et al. might be desirable for the fact that it would hold the ends of the separator in the same plane as before a seam such as the seam of Hercamp et al. was created, thus further protecting the separator from puncture by the gridwire ends. In other words, the seam of Hercamp et al. would make the edges of the separator bend in slightly toward the gridwire ends, leaving the

borders at a more vulnerable angle than the borders would be using the epoxy line of Robert et al., since the epoxy line would hold the separator borders farther away from the gridwire ends. Further, one of ordinary skill in the art would see that it would be obvious to select an epoxy that is harder or stronger than the separator bag, and therefore less susceptible to puncture by the gridwire ends.

On page 11, Appellant states that the suggested modification results in the elements not being used for their established function. Basically, Appellant asserts, continuing on page 12, that the epoxy line of Robert et al. is used to hold the active material in the separator bag, while the seam of Hercamp et al. is used to prevent puncture by the gridwire ends. Again, this argument is traversed by the examiner on the basis that Appellant has misunderstood the teachings of Hercamp et al. The ribbed structure on the borders of the separator bag of Hercamp et al. is used to prevent puncture; the seam is used to hold the electrode in the separator bag, as is the epoxy line of Robert et al.

Thus, responding to statements on page 13, the epoxy line of Robert et al. DOES improve the battery of Hercamp et al. "in the same way" as it improves the battery of Robert et al., since the epoxy line and the seam are both used to form the separator pocket. Again, the parallel ribs on the border of the separator of Hercamp et al. are used to prevent puncture by the gridwire ends.

Contrary to Appellant's next assertion on pages 13-14, the suggested modification would not cause an inventor considerable difficulty. It is well within the

Art Unit: 1795

ordinary level of skill in the art to replace a seam with a line of epoxy. One of ordinary skill would not be perplexed to form a line of epoxy, which is essentially glue, instead of bonding the edges (as is taught in Hercamp et al. - see column 2 lines 45-51) in order to create a pocket separator. Replacing a bonded seam with a glued seam is not a difficult stretch for one of ordinary, or even basic, skill in the battery art.

As for Appellant's argument on page 14 that the epoxy of Robert et al. would "flow into the space between Hercamp's separator material and Hercamp's 'electrochemically active material,'" the examiner is slightly confused by the statement. For the purposes of argument, the examiner will assume that Appellant is trying to argue that the epoxy line of Robert et al., if applied after the electrode of Hercamp et al. was placed into the folded separator of Hercamp et al., would contaminate the electrode of Hercamp et al. This seems unfounded in fact. The same epoxy line of Robert et al., applied as it is suggested by Robert et al., would not contaminate the electrode of Robert et al., since otherwise the battery of Robert et al. would be inoperable. One of ordinary skill in the art would surely recognize that many epoxies are available that are not in liquid form, but are highly viscous and will cure long before contamination can occur.

Next, on pages 14-16, Appellant argues that an inventor would not make the suggested modification, since, according to Appellant, there is no "reason to combine the known elements in the fashion claimed." In fact, motivation to combine has been provided, both above in the 103(a) rejection of claims 1 and 34, as well as in the arguments (see page bottom of page 14 - top of page 15 of this Examiner's Answer).

On pages 16-18, Appellant asserts that the combination of Hercamp et al. in view of Robert et al. does not result in the claimed battery. The examiner strongly disagrees.

It appears from Appellant's arguments that Appellant has defined a pocket as having seams on four sides. Yet, Diagram B, which is from the instant specification and is provided on page 17 of the Appeal Brief, *shows a pocket having seams on only three edges*. At the very bottom of page 17 and continuing to the top of page 18, Appellant states, that the seams shown in Diagram B do not constitute a pocket because "the electrode in Diagram B is free to move [back] through the top of the bag because it is not constrained by a portion of the pocket being located along the top of the bag."

This characterization of a pocket by Appellant such that a pocket is required to have seams along four sides will be addressed below, but has been previously addressed by the examiner in the Response to Arguments section of the Final Rejection of December 28, 2007.

Appellant's definition of a pocket is narrow and against the commonly accepted definition. Additionally, it is not consistent with Appellant's own claims. Appellant is directed to instantly filed claim 14, where a pocket is defined as having at least two seams (note: this can mean exactly two seams, or three or more seams), the seams defining the perimeter of a pocket. The pocket of Hercamp et al. has two seams on opposite sides, and a fold on the bottom defining a third seams. Next, Appellant is directed to instantly filed claim 15, which further defines the pocket of claim 14 as having seams to define *four sides* of a pocket. The examiner interprets this limitation as

further limiting the pocket of claim 14, which can have two seams, or three seams, on three sides – which would result in a commonly accepted “pocket.” One of ordinary skill in the art need only look a few inches below their own nose to find a pocket – a dress shirt has a pocket, having the perimeter defined by three seams, but does not have a fourth seam on the fourth, or top, side of the pocket.

The final paragraph of page 18 addresses the limitations to a “gap between the seams that are adjacent to one another.” This gap is interpreted to be the gap, seen in Hercamp et al., between the two parallel (and adjacent) seams on the two sides of the pocket.

Finally, on pages 19-21, Appellant argues that the cited art teaches away from the suggested modification. The arguments on these pages continue with the theme of the “gap” that was just addressed in the previous paragraph. The gap as Appellant has interpreted it would allow for the gridwire ends of the electrode of Hercamp et al. to puncture the separator. The examiner disagrees with this assertion on two different grounds. For the purposes of argument, the examiner will interpret the “gap” in the narrow way that Appellant is interpreting it: a gap *within* the seam (as is depicted in, for example, Figure 3A of the instant disclosure) and not *between* the seams (as the examiner interprets it in the previous paragraph).

First, as previously discussed, the seam of Hercamp et al. is not used to prevent puncture of the separator by gridwire ends: that is the purpose of the ribbed borders.

Second, Hercamp et al. does teach such gaps within the seam. Hercamp et al. teaches pressure bonded sites (30) on the edges of the separator (column 2 lines 52-55). When Figure 2 of Hercamp et al. is viewed, with that teaching in mind, it is clear that the seam is formed by separately bonded areas with gaps in between - see, for example, the seam at the edges of border 26B, where reference numeral 30 is used to point out the plural pressure bonded sites.

In summary of Appellant's arguments concerning the rejection of claims 1 and 34, it would have been obvious to combine Hercamp et al. and Robert et al. to make the instantly claimed invention. The results of the modification would be predictable. The suggested modification does result in the elements being used for their established function. An inventor would not meet considerable difficulty in implementing the suggested modification. The modification does result in the claimed battery. The cited art does not teach away from the combination.

On page 23, Appellant addresses the rejection of claim 8. Again, Appellant argues that there is no teaching of a gap "defined by the fold and by the spacer." The examiner argues that a gap, in both characterizations of a gap as discussed on the bottom of the previous page and top of this page of this Examiner's Answer, is taught by Hercamp et al.

Under the first characterization, where the gap is within the seam, Hercamp et al. teach such a gap. See Figure 2 of Hercamp et al., where it is clear that the pressure

bonded sites, which when replaced by the epoxy lines of Robert et al., do not extend all the way to the fold - thus defining a gap within the seam. Further, as for Appellant's argument that the gap under this interpretation would make the battery of Hercamp et al. short because of gridwire ends poking out of the separator, Appellant is again reminded of the misunderstanding of the teachings of Hercamp et al. as found earlier in Appellant's arguments. Hercamp et al. do not teach that the seam prevents the gridwire ends from poking out of the separator. Hercamp et al. teach that the ribbed borders prevent the gridwire ends from puncturing the separator.

As for the second characterization, where the gap is the gap at the top of the pocket, where the electrode is placed in the pocket, the examiner finds that such a gap would not exist without the fold and the two seams. Since the fold and two side seams are needed in order to *form* the gap, the fold and two side seams *define* the gap.

Claim 10 is addressed by Appellant on pages 25 and 26 of the Appeal Brief. Appellant argues that it would not have been obvious to use shorter seams than those of Hercamp et al. in view of Robert et al. because the shorter seams would permit the sharp gridwire ends to puncture the borders of the separator (see bottom lines of page 25). Appellant further argues that the epoxy line of Robert et al. would separate the borders of the separator of Hercamp et al., allowing for puncture of the separator by the gridwire ends. Appellant is reminded that it is the borders of Hercamp et al., and not the seams, that prevent puncture of the separator. Thus, modifications to the seam would

not result in puncture of the separator by the gridwire ends, because the seam does not prevent the puncture.

Claims 36 and 37 are addressed on pages 27 and 28 of the Appeal Brief. Appellant asserts that it would not have been obvious to one of ordinary skill in the art to from at least one additional seam after the electrode was positioned in the pocket. In the rejection, the examiner pointed to the teaching of Hercamp et al. that the seams may be formed after the electrode is positioned in the separator. Since the seams of Hercamp et al. are actually bonding sites, and since the sites are individual it would have been obvious to one having ordinary skill in the art at the time the invention was made to add some of the sites first and more later, since adding more of the seam later would be advantageous if the manufacturer was unsure of the electrode would fit in the pocket, or if the machinery used to insert the electrode in the pocket would damage an extended seam. It has been held that changing the sequence of adding ingredients (in this case, bonding sites of the seam) is within the ordinary level of skill in the art. MPEP 2144.04 IV C.

The rejection of claims 14 and 59 as being anticipated by Hercamp et al. is discussed on pages 29-31 of the Appeal Brief. In short, Appellant argues that the pocket of Hercamp et al. is not a pocket because it does not include as seam across the top gap. The examiner strongly disagrees with these arguments.

First, a pocket is certainly taught by Hercamp et al. See the above discussion of separator pockets on pages 17 and 18 of this Examiner's Answer.

Second, the configuration of a seam across the top of the pocket **is not** claimed in claims 14 and 59. The top seam is found in claim 15. See again the above discussion of separator pockets on pages 17 and 18 of this Examiner's Answer.

Claims 3, 18 and 54 are addressed on pages 32 and 33. Also, the limitations of claim 26 are addressed here as well.

Appellant argues that neither Hercamp et al. nor Rossoll teach a spacer between separator material. The examiner agrees. But, the rejection is over Hercamp et al. in view of Robert et al. (which teaches a spacer between separator material) and in further view of Rossoll. Appellant has not considered the complete rejection as it was made. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim 15 is discussed on pages 33-34. Appellant argues that Hercamp et al. neither teach nor suggest using seams on all four sides of the pocket. The examiner contends, as is laid out in the rejection above, that it would have been obvious to form a fourth seam at the top of the pocket of Hercamp et al. in order to hold the electrode in the separator pocket more securely.

Claim 23 is argued on pages 34-37. In summary, Appellant argues that the examiner has misapplied the teachings of MPEP 2144.04 (IV) (B), stating the claim limitation does not recite a change in shape. One of ordinary skill in the art would certainly recognize that changing a circular hole to a hole of the shape *defined in claim 23*. Appellant is free to argue that the shape in Diagram E is not an obvious variant of the holes taught in Cheu, but the examiner holds that any applicable arguments should be in reference to shape defined by claim 23. Throughout the Appeal Brief, Appellant has cited figures from the instant disclosure that are more narrow than the claims as filed.

Claim 26 has been previously addressed, see the final paragraph of the above rejection as well as the arguments concerning claims 3, 18 and 54.

In summary, the examiner holds that the crux of Appellant's arguments - that the modification of Hercamp et al. in view of Robert et al. destroys the teachings of Hercamp et al. - is based on a misunderstanding of Hercamp et al. Appellant argues that the seam of Hercamp et al. is the structure that was specifically designed to prevent puncture of the separator by the gridwire ends. Yet, it is clear from the above discussed passages and figures of Hercamp et al. that it is the ribbed border, and not the seam, that prevents puncture of the separator by the gridwire ends.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section (9) above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* dismissal of the appeal as to the claims subject to the new ground of rejection:

(1) Reopen prosecution. Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

(2) Maintain appeal. Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).

Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,

/Alix Echelmeyer/

A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:

/Gregory L Mills/

Supervisory Patent Examiner, Art Unit 1700

Conferees:

/SUSY N TSANG-FOSTER/

Supervisory Patent Examiner, Art Unit 1795

/Carol Chaney/
Supervisory Patent Examiner, Art Unit 1794